

THE ALLEGED TRANSPORTATION OF ITS EGGS OR YOUNG BY THE CHUCK-WILL'S-WIDOW

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MY experiences with the Chuck-will's-widow (*Caprimulgus carolinensis*) go back to the time when as a teen-age boy I roamed the woods about Vicksburg, Mississippi, and succeeded in finding three of their nests. Since I was subscribing to the little bird magazines of that day, I wrote an article on their habits which was published in *The Bittern* of January 1901. At Vicksburg the bird was a common species, judging from its calls at night, but to actually see one in life involved miles of tramping and searching through the woods.

After my college days I became a resident of Nashville, Tennessee, and there, too, found the "Chuck" present in goodly numbers. Its most favored haunt is the rolling or hilly country near the rivers where the elevation is from 450 to 650 feet. In the tableland, a few miles westward where the elevation is around 800 feet, it is replaced to a great extent by its smaller cousin, the Whip-poor-will.

Spring arrivals announce their coming about 15 April, although we have earlier arrival dates in April. Presumably the males return to their former territories where they vocally announce their presence with great persistence from an open space on the ground, such as a road. They are visited there by the female and mating begins. The birds continue to rendezvous at these places until the eggs are laid.

Thirty-five years ago I purchased a 25-acre tract of wooded land on a bluff along Stone's River, 9 miles from Nashville, and there built a summer cottage. I fenced the tract to keep out dogs, for three pairs of Chuck-will's-widows were nesting in this enclosed area. They continued to nest there for many years and I still have two pairs. I have often found their nests and have had good opportunity to study their habits there as well as elsewhere.

The two, glossy, handsomely marked eggs are laid usually about 15 May, on a level spot, so they will not roll downhill, and upon the dead leaves just as the bird finds them. Their protective coloration is good and they are not readily seen. They are not laid close to a tree, bush, or log since this would prevent the bird from arising quickly on flight. The female returns to nearly the same spot, year after year, if the surroundings have not changed. This has been observed also by others. Before the eggs are laid, she will be found roosting close by as though to observe the possibilities of predation. I have found and observed more than a score of nests but never found one the day the first egg was laid. Competent observers have done so, however, and have

found that a day intervenes between laying the first and second egg. Incubation (Wilson, 1959) requires approximately 20 days and the newly hatched young, covered with buffy down, at first lie flat on the ground. They soon become precocious youngsters, leave the nest site, and develop so rapidly that they are able to rise and fly 50 feet or more when only 17 days old. At this time they are completely feathered. Because of continued growth, the young molt during the latter part of July. During their development, they are attended only by the female. The males continue to occupy the same general area but are not seen at the nest site or near the young.

The preferred roosting spot is upon a fallen branch on the forest floor and here they may be found daily unless unduly disturbed. At such roosting spots a small pile of black and white excrement may be found. The birds sit crossways to their perch more often than not. They may less often be found roosting on the low branch of a tree in the woodland. The story recorded by Audubon that the birds roost in the daytime in hollow trees with bats is highly improbable. The physical characteristics of the bird would rule out such a habit.

We also read that the bird is highly conscious of its protective coloration and that it will not flush from the ground until nearly stepped on. This has not been my experience. I never approached a bird closer than 12 feet without its flushing and usually they leave their eggs on being approached within 15 to 20 feet. When roosting, the flushing distance is greater. When flushed from its eggs or small young, the parent makes a short, low flight, usually drops to the ground, and with flapping, outstretched wings, endeavors to lure the intruder away.

During the summer the Chuck-will's-widow breeds from the southern parts of Ohio, Indiana, and Illinois, south to the Gulf coast. They winter in Central America, the West Indies, and northern Colombia. Departure dates in the fall are hard to obtain because the birds rarely call after mid-August and late dates can be secured only by flushing one or seeing it flying in the dusk. My latest dates for Nashville are around 5 September, though I have one record of 23 September.

With this brief introduction, we will now take up the chief purpose of this paper which has to do with the reliability of the oft-repeated story about Chuck-will's-widows transporting their eggs or young to another site if they find that they have been touched by human hands. This story first appeared in Volume I of Audubon's "Ornithological Biographies," 1831, and the account, as printed, reads as follows:

"The bird forms no nest. A little space is carelessly scratched among the dead leaves and in it the eggs, which are elliptical, dull olive and speckled with brown, are dropped. These are not found without great difficulty, unless by accident a person passes within

a few feet of the bird while sitting, and it chances to fly off. Should you touch . . . (the eggs) . . . and, returning to the place, search for them again, you would search in vain, for the bird perceives at once that they have been meddled with, and both parents remove them to some other part of the woods where chance only could enable you to find them again. In the same manner they also remove the young when very small. . . . The Negroes, some of whom pay a good deal of attention to the habits of birds and quadrupeds, assured me that these birds push the eggs or young with their bill along the ground. . . . I made up my mind to institute a strict investigation of the matter. The following is the result. When the Chuck-wills-widow, either male or female, (for each sits alternately) has discovered that the eggs have been touched, it ruffles its feathers and appears extremely dejected for a minute or two, after which it emits a low murmuring cry, scarcely audible to me as I lay concealed at a distance of 18 or 20 yards. At this time I have watched the other parent reach the spot, flying so low over the ground that I thought its little feet must have touched it as it skimmed along, and after a few notes and some gesticulations, all indicative of great distress, take an egg in its large mouth, the other bird doing the same, when they would fly off together, skimming closely over the ground, until they disappeared among the branches and trees. But to what distance they remove their eggs, I have never been able to ascertain nor have I ever had an opportunity of witnessing the removal of the young. Should a person, come upon a nest when the bird is sitting, refrain from touching the eggs, the bird returns to them and sits as before. This fact I have also ascertained by observation."

Briefly, it is my belief that Audubon had no such personal experience on which to base this story. It does not fit in with my own long experience with these birds, nor have I been able to find in the literature any ornithologist since Audubon's time who claims to have witnessed such an episode. I would not question the bird's capability of taking an egg in its large mouth and flying with it to another place, but the two, thus acting in concert, would be putting on an act far beyond the limits of avian intelligence.

Furthermore, I have never found two adult birds together, at or close to the nest during the daytime. When the sitting or brooding bird is flushed and makes the usual vocal protest, I have never seen a mate come to her aid as might be expected. This is true likewise during the weeks she is guarding the fledglings. Other observers, whom I shall quote further on, have also found this to be the case. During May, the males have regular locations from which to begin their evening calls and they can be heard calling at the same locations each evening. The nest site is never, in my experience, close to the initial calling point of the male.

The parental bond and home tie is usually developed in male birds through the process of nest building. In some species this activity may last for as long as two weeks and the final result is the production a a very helpful male parent to the young. Because of the utter lack of a nest in the case of the Chuck-will's-widow, the male is not exposed to this cooperative stimulus and apparently such a bond is not well developed.

Before presenting an array of evidence to nullify the Audubon story, let



FIG. 1. Chuck-will's-widow, between 5 and 6 weeks old. The light-colored (ochraceous-buff) scapulars and wing coverts will be replaced by darker feathers before fall.

us consider the circumstances surrounding the preparation of the first volume, of which this story is a part. Audubon had come to London in 1830 to see what could be done about beginning a descriptive treatise to follow along with his portfolios of plates. Late that year he found that three publishers were at work getting out editions of Wilson's book, with the same objective. At that time, Audubon was an unpracticed writer of English prose, and prospective publishers turned down his efforts. On advice from a fellow naturalist, he made a bargain with a young writer named William MacGillivray to act as a ghostwriter. This young man knew nothing about American birds except what he found in Audubon's journals and what Audubon wrote out from recollections in his flowery and sometimes indefinite style. This material MacGillivray rewrote, chiefly in his own words, to meet the exacting style of the day. Meanwhile, Audubon was painting pictures for sale in order to raise money for living expenses and for the printer, ever fearful that his first volume might be a financial failure. He wrote in his diary that his prospective English subscribers would not be satisfied with plain descriptive matter but that they required "novelty" in return for their patronage. Under the stress of competition and the fear of failure, it is fair to assume that Audubon and

MacGillivray dressed up the Chuck-will's-widow story to meet this demand for "novelty."

Audubon's opportunities to have observed the Chuck-will's-widow came only in the summers of 1821, 1822, and 1823. According to his 1820-21 Journal (Corning, 1929), he was at Bayou Sarah, Louisiana, north of New Orleans, from 17 June to 20 October 1821, and during that time found no birds of this species other than two specimens given to him by hunters. In 1822, he was at Natchez and during the nesting season spent his time in the swamp country across the river where the Chuck-will's-widow does not breed. During the summer, however, he apparently secured a male, from the hill country eastward, which he painted alongside a female secured in 1821. The spring of 1823 was spent traveling as an itinerant portrait painter until about 10 May, after which time he taught music and dancing at Bayou Sarah. In the following years, the nesting seasons were spent in northern localities.

With reference to its nesting, he set down in his 1821 Journal: "Many of the planters think that this bird has the power and judgment of removing its eggs when discovered, sometimes several hundred yards—these are usually laid on the bare earth, under a small bush or by the side of a log." This is the only reference to its nesting in this Journal. Stanley C. Arthur (1937), in his fine biography of Audubon, reproduces the above quotation and then states, "... which proves that this observation which appeared in the *Ornithological Biographies* was not founded on personal observations but upon mere hearsay." He then condemns those who have repeated the story in later years.

If Audubon had set down any notes on the Chuck-will's-widow during the summers of 1822 and 1823, we would expect to find them in the 1822-23 Journal. This small volume, described by his granddaughter Marie Audubon (1897), was burned by her after she had extracted from it what she chose to reveal. Dr. Eliot Coues had read through this Journal and after some sheets were removed for preservation, he is said not to have opposed its destruction. The sheets preserved do not include any notes on birds.

In Constance Rourke's biography (1936) of the famous bird painter, she gives a different version of the egg-transportation story; but this seems to have been only an unfounded dramatization of the account in the "*Biographies*" and the brief entry in his 1821 Journal, quoted above.

Through the years this strange story has intrigued many ornithologists and led to many attempts to verify or disprove it. Because of their nocturnal habits, the birds are different subjects for study. Not a great many people have found their eggs, because the only means of finding them is to flush the female from the forest floor.

On a number of the occasions that I have found the eggs, I have later brought others to view them or the incubating bird on the same day or on

subsequent days. When first found, I pick up and hold the eggs to the light to determine the stage of incubation. There have been times when the eggs disappeared or were found broken but I have always attributed this to my trail having been followed by a dog, a habit common to the canine family. Other predators, such as foxes, skunks, opossums, rats, snakes, will take the eggs. One nest, which I found with two fresh eggs, when visited the next day was found to have each egg broken on one side and the contents licked clean—probably the work of a skunk. After locating a nest with eggs, I do not approach again closer than 20 feet for fear of leaving a trail. I have observed the young within a day after hatching and have noted that the returning parent will alight a foot or more away from them. Her purpose is to cause them to slowly scramble toward her warmth and protection, thus getting them away from the spot that has been scented with the odor of incubation. This trick is continued daily and within a few days the young may be yards from the original site. I feel sure that the failure to find the eggs or young at the nest site has caused many to believe that they had been transported away by the parent. Having given you the gist of my own experiences, let me now quote you the observations of others.

Major Charles Bendire (1895) quotes the veteran ornithologist Dr. William C. Avery of Greensboro, Alabama, as follows:

“It is said that if either their eggs or young are disturbed, they are carried off in the capacious mouths of the birds. . . . I must say that I do not believe this assertion. I purposely flushed the bird off the eggs that I sent you, three times on May 3, 1890, when I first found the nest, and once on the 4th . . . and yet the old bird returned each time and continued to sit as long as the eggs remained there.”

W. J. Erickson, an experienced Georgia ornithologist (1919), says:

“To test the truth of the report that these birds remove their eggs a short distance when touched, I purposely handled every one of four sets found, being careful to mark the exact spot where they lay, but on returning to the eggs, I found every one in the spot where I had left them, none having been moved as much as an inch. I have made this test repeatedly in several other localities on the coast of Georgia but always with the same result.”

Herbert Stoddard of Thomasville, Georgia, is quoted by Bent (1940) as watching the young which had hatched on 30 April and 1 May. He records that they moved from day to day. The female flew in close; he never observed a male at the site. On 6 May (5 days after hatching), she was brooding her chicks 30 feet from the nest.

Captain Charles L. Steele (1930) made a study of a nest found at Ft. Benning, Georgia on 12 May, containing two eggs which hatched on 31 May. The old bird was very loathe to leave the nest and permitted seven persons to approach to within four feet before taking wing. When the invaders left the

vicinity, she returned at once to the eggs and permitted her picture to be taken at a yard distant. At 17 days of age one of the well-feathered young, found some distance away, was able to fly about 60 feet. The trustful deportment of this bird was unusual.

Some very fine observations on the nesting habits of this species have been furnished me by Dr. Lawrence P. Wilson of Walls, Mississippi, made at his country place south of Memphis. During 1962, he found a nest with 2 fresh eggs, on 24 May. The male bird was found 100 feet away on a fallen dead limb. He was there again the next day but was not to be found after that. Dr. Wilson built a blind and moved it to a point 25 feet from the nest for future observations. On 1 June, 8 days later, he visited the nest, held the eggs in his hands for several minutes to impart a possible human scent, and replaced them. With his wife he walked to the blind and entered, after which she walked away. After a 13-minute wait, the bird flew down to the ground and sat there facing the eggs but a few inches away. She remained there 8 minutes before moving forward to cover them. On 6 June, 5 days later, he repeated the experiment. This time the bird returned and alighted 3 feet from the eggs, later arising and dropping down to cover them. The following day, Dr. Wilson moved the eggs 6 inches. The bird, on returning, sat upon them there but the next day he found she had rolled them back to the original spot.

On 11 June, at 2 PM, his visit showed that one of the eggs had hatched. This was the 20th day after finding the eggs. The next day the second egg was found to have hatched. The following day, 13 June, the young were 18 inches from the "nest." On 14 June, the young were 12 feet away, although they were only 3 or 4 days old. Four days later they were 50 feet away from the last-mentioned spot. On 23 June, the young, now fully feathered and 16 or 17 days old, flew 100 and 150 feet, respectively.

During 1963, Dr. Wilson continued his observations and made some important findings by watching an incubating female from a blind through two entire nights. This nest, found on 27 May, held two fresh eggs which, on account of the late date, were presumably a replacement laying. He erected a small tent blind 25 feet from the nest and provided an electric light suspended in the tree above the blind, adjusted so that its rays would illuminate only within a few feet of the incubating bird. At dusk on 3 June he entered the tent with his wife, after which she walked away at 7:25 PM.

The bird returned at 8:10, after he turned the light off temporarily. As early as 7:40, three males had been heard some distance away and they continued calling for about 20 minutes. With the overhead light off, it was still easy to spot the bird on the nest with the small hand flashlight, since her eyes reflected the light "like a new penny." "Chucks" had been heard calling almost continuously from woods far off, but at 9:30 one came closer and

started calling. The incubating female raised up and gave 3 "quawks" but did not leave. The male left but returned at 11:20 and, in response to his "quawks," the female flew up into the trees, then returned to the eggs within 2 minutes, presumably having been fed by the male. At 1:40 and again at 3:55, the procedure was reenacted, both birds "quawking" while in the trees above. At 4:20, it had become fairly light and the female left the nest without an invitation from the male. She remained away for 15 minutes and this was presumed to be her regular morning feeding time.

On 7 June, Dr. Wilson again spent the night in the blind, entering at 7:40 PM, and the female, which had flown off, returned at 8:00. The male did not arrive in the trees above until 10:32, when he "quawked" several times and called "chuck-wills-widow" 3 or 4 times. After several further invitations on his part the female flew up into the trees, returning in less than 2 minutes. Again at 11:25 and 2:50 AM, the procedure was repeated. At one time, 11:45, 2 or 3 males were calling "chuck-wills-widow" nearby but the female showed no interest whatsoever. At 4:10, she flew off and remained away for 24 minutes; this again was presumably her morning feeding time.

On 9 June, Dr. Wilson came prepared to spend a third night, entering the blind an hour earlier so as to ascertain the time of the evening feeding period in case there was one. Unfortunately, the eggs were gone and a bit of shell where they had lain revealed that they had again been removed by a predator. He had hoped this set would be spared long enough to hatch so that he could observe whether the male as well as the female brought food to the young. During his watches he noted that the female kept her eyes wide open all during the night hours as though to be alert for predators. It is his conclusion that the male does not assist in the incubation chore nor guard the eggs during her absences, and that he visits and feeds her several times during the night.

The long, curved, middle claw of the Chuck-wills-widow is equipped with a well-developed comb on its inner side, measuring 8 mm in length. This is provided to enable the bird to rid itself of insects that may crawl upon it from the ground, particularly the flat-bodied wood ticks which are difficult to brush off. In this connection, Rysgaard (1944) flushed one of these birds from a single egg at point of hatching and noted that the bird had an egg attached to or held by one of its feet as it lit on a low limb close by. A few hours later he returned to the spot and found that it had hatched in the meantime. I can readily agree with his conclusion that the long claw, above described, became embedded in the soft or pipped shell and could not readily be released.

SUMMARY

This paper presents a great deal of original information on a species that has received but little study and endeavors to correct certain errors in the literature. A critical reading of Audubon's "Biographies" will reveal numerous errors, particularly in the first volume, and it is evident that some of his stories were based on mere hearsay. It must be realized that present-day ornithological ethics had not evolved by 1831, and that "tall tales" from America were expected, if not demanded. I have searched through the literature quite fully and cannot find any contributor who has stated that he himself has witnessed the procedure described in Audubon's book. Herrick (1917) has not seen fit to discuss the story. Baird, Brewer, and Ridgway, in their History of North American Birds, reproduce the Audubon story and cast no doubt on its validity. A surprising number of later authors have printed the account in their works, some crediting it to Audubon and, regrettably, more have not. I think that quite enough testimony has been presented in the foregoing statements by competent ornithologists to refute the story and that future authors should avoid its repetition.

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